



Don't Swim with Shocks: Electrical Safety In and Around Pools

What is the problem?

The Consumer Product Safety Commission has reports of 14 deaths related to electrocutions in swimming pools from 2003 to 2014. Hot tubs and spas may present the same electrical hazards as swimming pools.

What is electrocution?

Electrocution is death by an electrical shock. Wet skin or wet surfaces, such as grass or a pool deck, can greatly increase the chance of electrocution when electricity is present.

Where would I find electricity around pools, hot tubs and spas?

- Underwater lights, handrails
- Electric pool equipment -- pumps, filters, vacuum, etc.
- Extension and power cords
- Electrical outlets or switches
- Radios, stereos, TVs and other electrical products
- Overhead power lines

How do I know if I or someone else may be receiving an electrical shock?

- Swimmers may feel a tingling sensation, experience muscle cramps, and/or not be able to move
- Panic, unusual actions observed by swimmers
- Lack of motion in swimmers.



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BOARD OF RULES AND APPEALS
 1 NORTH UNIVERSITY DRIVE 3500-B
 PLANTATION FL 33324
 TL: 954.765.4500
www.broward.org/codeappeals

1600 copies of this public document were promulgated at a gross cost of \$348.00 and \$0.218 per copy to provide the public information about pool safety.

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Don't Get Shocked!

BROWARD COUNTY BOARD OF RULES AND APPEALS

Electrical Pool Safety Information.



Dangerous Items to Look For

- Discolored light fixtures
- Broken or rusted electrical boxes
- Loose, broken and unattached wiring around pool equipment, screening, and decking
- Broken switch or receptacle plates in the pool area
- Overhead power lines

Things not to do.

- Never swim alone
- Do not use electrical extension cords around pools
- Do not touch anything electrical when you are wet.
- Do not allow a unqualified person to do electrical work on your pool

Things you can do.

- Locate and label all power switches to be turned off in case a shock occurs
- Use and test GFI receptacles around pool
- Learn CPR
- Have a fiberglass Shepherd's Hook nearby for rescue purposes
- Only use battery powered appliances near pools

***Contact a licensed
Electrical Contractor to
inspect for electrical
safety of your pool.***

Note: Your home may have a 120 volt light fixture installed in your pool. It is recommended that you change the pool light fixture voltage from 120 volts to 12 volts. The Broward County Board of Rules and Appeals has amended our local code for new construction where all lighting for pools shall be 12 Volts.



Above is a photo of a typical low voltage (12 Volt) lighting transformer. It should not be rusted, have electrical wires coming out of it, or covers missing. If so, you need immediate use of a licensed electrical contractor to maintain the electrical safety in your pool.

This brochure is for informational purpose only, Other information can be obtained by looking at the following.

www.cpsc.gov

www.redcross.org

www.broward.org/codeappeals



Hair entrapment from main drain

There are five types of suction entrapment

- **Hair entrapment.** Hair knotted or snagged in an outlet cover
- **Limb entrapment.** A limb inserted or sucked into an outlet opening with a broken or missing cover, resulting in a mechanical bind or swelling
- **Body suction entrapment.** Suction applied to a large portion of the body, resulting in entrapment
- **Evisceration/disembowelment.** Suction applied directly to intestines through an unprotected sump or suction outlet with a missing or broken cover
- **Mechanical entrapment.** Jewelry, swimsuit, hair decoration, finger or toe, etc. caught in the opening of an outlet or cover

There has been a lot of press recently about the “dangers” of pool drain suction. Unfortunately, most people cannot picture a pool main drain, skimmer, and vacuum pool fitting.

It is suggested that you contact a licensed pool contractor to review entrapment prevention in your pool or spa.



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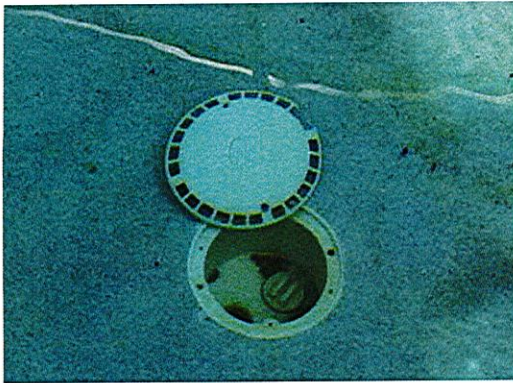
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Here is a child who was entrapped by a main drain in a swimming pool

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*Entrapment
 Prevention in Pools*



Main drain entrapment, or being suctioned down to the main drain of a pool or spa, has fatal consequences for swimmers.

There are 5 methods of correcting a hazardous situation from dedicated main drain lines.

1. Abandon the Main Drain Line.
2. Install a Vacuum Release System.
3. Install Dual Main Drains.
4. Install an approved main drain cover that meets American National Standards Institute (ANSI/APSP 7) for pools with one main drain.
5. Depending on each pool or spa situation, multiple methods may be required.



**Vac Lock Safety
Wall Fitting**

Another area for suction problems is the vacuum line for pool cleaners.

The vacuum line should have a self-closing, self-latching fitting when not in use.

Swimmers should never be in the pool when it is being vacuumed.

It is recommended that the vacuum line is piped and valved so it can be turned off when not in use.



There are very inexpensive safety face plates that can be purchased to make the skimmer harder for hands to reach.

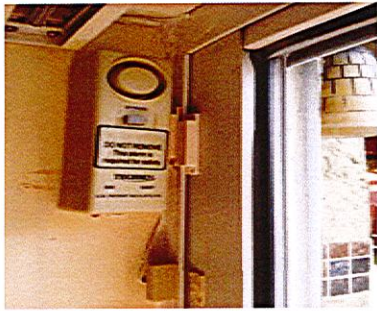
In most above or on-the-ground pools and spas there is a wall skimmer that sucks the water out of the pool and spa and back to the filter.

The skimmer has a protective basket that sits on top of the actual intake at the bottom of the skimmer.

However, it is not unusual for someone to remove the basket for cleaning and forget to put it back in the skimmer.

Making this a dangerous suction place in the pool deck.

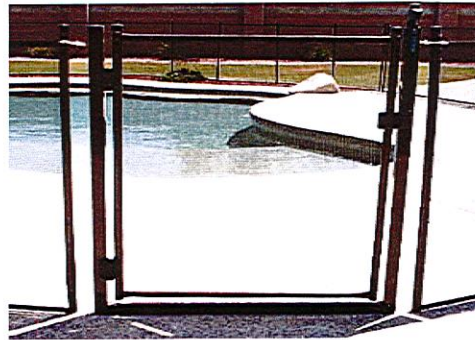
Skimmer lids should have vent holes.



One example of a pool alarm.

- Make sure bottom of ladders remain tight to wall.
- Install alarms that meet Statute and Code requirements, on all windows and doors which lead into the pool area.
- Make sure that all doors leading directly to the pool area are also self-closing and self-latching.

In addition to these measures, pool safety experts remind us that supervision of children and emergency preparedness are also essential to pool safety.



The above type of “child barrier” needs to meet similar requirements to that of a fence.

These are just a few recommendations.

A licensed swimming pool contractor should be contacted to review your individual pool safety features.



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**Is your pool
 as safe as it
 could be?**

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*Pool Safety
 Information*



Did you know that drowning is the leading cause of death among children ages 1-4 in Florida?

(Approximately 66 % of all drownings occur in residential pools)

Did you know that, by State Law and the Florida Building Code, all new residential pools built after October 1, 2000, require safety barriers?



(Double outside barrier, fence and screen enclosure. This may require window and door protection to complete the barrier)

Barriers are intended to prevent a young child from crawling under, squeezing through, or climbing over such to gain access to the pool.

If your pool was built prior to October 1, 2000, here are some things that the new law now requires and you should consider doing:



MAKE YOUR POOL SAFER

- **Add a yard fence, minimum 4' high, with self-closing, self-latching gates that swing out from the pool area.**

(This may need to be combined with other elements, such as the wall of the house to form the complete barrier)

- **Install an approved pool cover, pool net or child safety fence which needs to be in place at all times the pool is not in use.**